CLAIMS

1. A method of manufacturing a microwave window (26, 50, 80) for the separation of media (32, 34), comprising a separating disk (36, 54, 81, 90, 100, 130, 145, 147) transparent to the electromagnetic microwaves and at least one collet (42, 44, 52, 84, 102,104, 161, 164) in the form of a circular cylindrical tube brazed via one of its edges onto one of the two faces (38, 40, 82, 83, 101,132, 136) of the disk, characterized in that it includes at least one step consisting in depositing a thin film of active braze (86) on that edge of the collet which is intended to be brazed onto one of the two faces of the disk, and then in brazing the tube onto the disk.

2. The method of manufacturing a microwave window as claimed in claim 1, characterized in that the edge of the collet (52, 84, 102,104, 161, 164) intended to be brazed onto one of the plane faces (38, 40, 82, 83, 101,132, 136) of the disk has a generatrix close to a straight line.

3. The method of manufacturing a microwave window as claimed in either of claims 1 and 2, characterized in that:

- in a first step, the collet (84) is produced in the form of a circular cylindrical tube with a wall thickness (e1) and a tube diameter that are constant along the tube;
- in a second step, a thin film of active braze (86) is deposited on the surface (85) of one of the edges of the collet (84) that is intended to be brazed onto the disk (81), said braze (86) being of the Cusin 1ABA type and melting at a high temperature of around 800°C;
- in a third step, the collet (84) is applied, via its edge having the active braze (86), to the surface (83) of the disk using a centering tool (87); and
- in a fourth step, the disk (81)/collet (84)/active braze (86) assembly is raised to a temperature of around 800°C, while applying a force F to compress the bead of active braze (86) between the edge of the collet and the surface of the disk, in order to braze the collet onto the disk, and then the window is cooled to room temperature.

4. The method of manufacturing a microwave window as claimed in one of claims 1 to 3, characterized in that the active braze (86) is deposited by screen printing on the surface (85) of one of the edges of the collet (84) that is intended to be brazed onto the disk (80).

5. A microwave window for the separation of media (32, 34), comprising a separating disk (36, 54, 81, 90, 100, 130, 145, 147) transparent to the electromagnetic microwaves and at least one collet (42, 44, 52, 84, 102,104, 161, 164) in the form of a circular cylindrical tube brazed via one of its edges onto one of the two faces (38, 40, 82, 83, 101,132, 136) of the disk, characterized in that the edge of the collet intended to be brazed onto one of the plane surfaces of the disk, and on which edge a thin film of active braze is deposited, has a generatrix close to a straight line.

6. The microwave window as claimed in claim 5, characterized in that the edge of a collet intended to be brazed onto the disk has the same width as the wall thickness (e1) of the tube.

7. The microwave window as claimed in either of claims 5 and 6, characterized in that it comprises two coaxial collets (84, 85) in the form of circular cylindrical tubes that are brazed onto the disk in order to form a circuit for cooling the disk.

8. The microwave window as claimed in claim 7, characterized in that the cooling circuit comprises a stainless steel separating tube (110) having a diameter between the two diameters of the copper collets, the separating tube (110), whose axis of revolution is collinear with the ZZ' axis of the disk, being located between the two collets (102, 104), the edge of the separating tube on the side facing the disk (100) being at a distance D1 from the disk, creating, with the two collets, an inlet compartment (C1) on the side facing the smaller-diameter collet (102), an outlet compartment (C2) on the side facing the larger-diameter collet (104) and a baffle (Bf) allowing a fluid Fd to flow from one compartment (C1) to the other (C2) via the baffle (Bf).

9. The microwave window as claimed in claim 8, characterized in that the inlet compartment (C1) is closed, on the side away from the baffle (Bf), by a stainless steel inlet ring (112) fastened to the separating tube (110) and by another inlet collet (114) made of copper, in the form of a tube whose axis is collinear with the ZZ' axis, said tube being brazed via one of its ends onto the small-diameter collet (102), the inlet collet (114) having a copper closure ring (116) which is, on the one hand, fastened to the inlet ring (112) and, on the other hand, brazed onto the free edge of the copper inlet collet (114), the inlet ring (112) includes a duct (120) emerging in the inlet compartment (C1) in order to allow cooling fluid to flow into the cooling circuit (C1, Bf, C2), the outlet compartment (C2) being closed, on the side away from the baffle (Bf), by a stainless steel outlet ring (122) whose axis is collinear with the ZZ' axis, which is fastened to the larger-diameter collet (104) and to the inlet ring (112), the outlet ring (122) having a duct (126) emerging in the outlet compartment (C2) in order to allow the cooling fluid to leave the cooling circuit (C1, Bf, C2).

10. The microwave window as claimed in either of claims 5 and 6, characterized in that it includes a cooling circuit comprising a circular cylindrical separating tube (161) made of stainless steel lying between two copper collets (162, 164) of different diameters, the tubes and the collets, which are coaxial with the ZZ' axis of the disk, creating the inlet compartment C1, the outlet compartment C2 and the baffle Bf for allowing the fluid Fd to flow from one compartment C1 to the other C2 via the baffle Bf, the first collet (162) being in the form of a circular cylindrical tube, the second collet (164), which surrounds the first, being a copper tube of frustoconical shape, the smaller-diameter edge being brazed onto the disk (100), the inlet compartment (C1) being closed, on the side away from the baffle (Bf), by a stainless steel inlet ring (166) fastened to the separating tube (161) and by a copper closure ring (168) brazed onto the free edge of the small-diameter collet (162), the inlet ring (166) having a conduit (168) that emerges in the inlet compartment (C1) in order to allow the cooling fluid to enter the cooling circuit (C1, Bf, C2), the outlet compartment (C2) being closed, on the side away from the baffle (Bf), by a stainless steel outlet ring (170), whose axis is collinear with the ZZ' axis, fastened to the frustoconical collet (164) and to the

inlet ring (166), the outlet ring (170) having a conduit (172) emerging in the outlet compartment (C2) in order to allow the cooling fluid to leave the cooling circuit (C1, Bf, C2).

11. A double-disk microwave window, characterized in that it comprises a first window (140) having a separating disk (145) and a second window (142), symmetrical with the first, having another separating window (147) as claimed in one of claims 5 to 10, the first and second window being symmetrical with respect to a plane parallel to the faces of the disks of the two windows, the two windows each having their respective cooling circuit, in the case of one of the windows (140), a cooling circuit (144) on the same side as one of the faces of its disk (145) and in the case of the other window (142) another cooling circuit (146), symmetrical with the first (144), on the same side as the other face of its disk (147), a pumping device (150) creating a vacuum in a space bounded by a wall (152), comprising the two disks (145, 147) of the double-disk window.